Remarks

Claims 1–6, 8–11, and 14 are pending. Claims 1 and 14 are amended to clarify an ambiguity that resulted during translation of original claim 1 from the German-language priority document. No new matter has been entered.

Double Patenting Rejection

Claims 1–11 were rejected on the ground of nonstatutory, obviousness-type double patenting as being unpatentable over claims 1–18 of U.S. Pat. No. 7,378,255 to Horn et al.

The Applicants have filed with this response a terminal disclaimer over U.S. Pat. No. 7,378,255, accompanied with the appropriate fee. "The filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither presumption nor estoppel on the merits of the rejection." *Quad Environmental Technologies Corp. v. Union Sanitary District*, 20 U.S.P.Q.2d 1392, 1394–95 (Fed. Cir. 1991).

It is believed that the double patenting rejection is overcome. The Applicants respectfully request withdrawal of the rejection.

Rejection Under 35 U.S.C. § 102(e)

Claims 1–11 were rejected further under 35 U.S.C. § 102(e) as being clearly anticipated by Horn et al. (U.S. 7,378,255; "Horn"). Applicants respectfully request reconsideration.

Horn is not available as prior art against the present application under § 102(e), because Horn was filed in the United States after the effective filing date of the present application.

Because 35 U.S.C. § 102(e) is explicitly limited to references "filed in the United States before the invention thereof by the applicant," foreign priority dates of the references cannot be used to antedate the application filing date. Nevertheless, the applicant may overcome the § 102(e) rejection by proving entitlement to his or her own 35 U.S.C. § 119 priority date that is earlier than the reference's United States filing date. MPEP 2136.03(I) (citing *In re Hilmer*, 359 F.2d 859, 149 USPQ 480 (CCPA 1966).

The present application has a perfected priority claim under 35 U.S.C. § 119 to German Application No. 103 04 448.5, filed February 4, 2003. Thus, the effective filing date of the present application is February 4, 2003.

Horn was filed in the United States on January 28, 2004, nearly one year after the effective filing date of the present application.

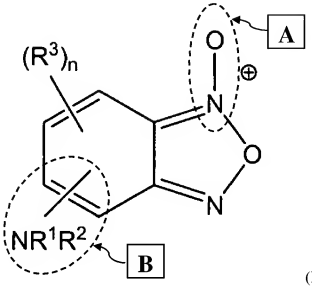
With regard to consideration under § 102(e), neither the § 119 foreign priority date of Horn (January 28, 2003) nor the United States filing date of the present application (February 4, 2004) is relevant in light of the present application's perfected priority claim. Thus, Applicants respectfully submit the rejection under § 102(e) is improper.

Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejections Under 35 U.S.C. § 102(b)

Claims 1–6, 8–11, and 14 were rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Albarella et al. (U.S. Pat. No. 6,872,573; "Albarella"), Hoenes (US 5,334,508), or Ghosh et al. (US 4,358,595, "Ghosh"). The Applicants respectfully traverse.

Claims 1 and 14 recite, *inter alia*, a detection reagent which contains, as a fluorimetric redox indicator, a compound of the general formula (I):

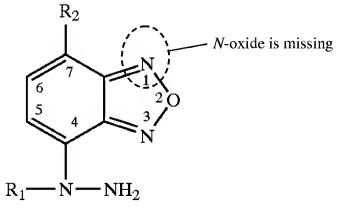


(I)

Two distinguishing features of general formula (I) include an *N*-oxide (group A) and an amine substituent (group B) on the six-membered ring of the base molecule. No one of the cited patents describes a molecule including a group A and a group B. Therefore, no one of the cited patents "clearly anticipates" claims 1 and 14, or any claims dependent thereon. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Vardegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Each reference is considered individually below.

Albarella does not describe any *N*-oxides

Albarella teaches methods including indicator molecules of the general formula (II):



(II)

Regardless of how the variable groups R^1 and R^2 are defined for formula (II), no molecule encompassed by Albarella's formula (II) contains the *N*-oxide required by the instant formula (I). The remainer of Albarella's disclosure is silent as to any derivative of formula (II), much less to an *N*-oxide. Thus, the Applicants respectfully submit that Albarella does not teach any molecule according to formula (I) and, therefore, that Albarella does not anticipate any of the instant claims.

Hoenes does not describe amine functionality (group B) on the six-membered ring

The broad disclosure of Hoenes does not anticipate any of the molecules recited through formula (I) as defined in instant claims 1 and 14, because an amine functionality on the six-membered ring of formula (I) cannot be "at once envisaged." For a chemical species to be anticipated by a broadly disclosed chemical genus, one of ordinary skill in the art must be able to

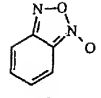
"at once envisage" the species compound within a generic chemical formula taught in the reference to define the genus. MPEP 2131.02. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be "at once envisaged." *Id.* One may look to the preferred embodiments to determine which compounds can be anticipated. *Id.*

The broadest description of compounds in Hoenes is found in claim 1, "b) an aromatic nitroso [*N*-oxide] compound or a tautomerically equivalent oxime compound which is effective to accept electrons from the enzyme/cofactor." This describes potentially millions of compounds and clearly does not enable the person of ordinary skill to "at once envisage" any compound of formula (I), in which an amine group $-NR^1R^2$ is required. Thus, it is necessary to look to the preferred embodiments of Hoenes to determine how broadly Hoenes may anticipate any claim in an application.

At column 5, lines 37–43, Hoenes discloses the following:

> Furthermore, as advantageously usable aromatic N-oxides, there can be mentioned those of benzfuroxane[*] and benzfuroxane derivatives, the carbon aromatic structure of which can be substituted by low molecular ring substituents. In this connection, low molecular ring substituents can be those with a molecular weight of up to about 400 Dalton.

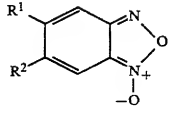
*To note, benzfuroxane, as presented in the Applicants' response filed June 2, 2009, refers to the following molecule:



benzofuroxan

Thus, Hoenes broadly teaches benzfuroxane derivatives, in which the carbon aromatic structure can be substituted with groups having a molecular weight of up to about 400 Dalton. Though this teaching is significantly narrower than the recitation in Hoenes's claim 1, it still encompasses an inordinately large number of compounds. But it is not the inordinately large number of compounds that controls the analysis. The controlling factor is that Hoenes is *silent* as to whether any of the groups "having a molecular weight of up to about 400 Dalton" may include an amine, such as the amine of group B in instant formula (I). The person of ordinary skill has no reason from the above disclosure to begin sketching amines into potentially anticipatory molecules. Therefore, no compound according to formula (I) of instant claims 1 and 14 can be "at once envisaged" from this preferred embodiment. Again it is necessary to consider further preferred embodiments.

Hoenes teaches especially preferred benzofuroxanes having the formula (III):



(III)

In formula (III), R^1 and R^2 are the same or different and are hydrogen atoms or lower alkyl, lower alkoxy, lower alkylcarbonyl or formyl radicals. (Hoenes, column 5, lines 54–56). These classes are defined such that lower alkyl and lower alkoxy are radicals containing up to 5 carbon atoms, methyl and methoxy radicals being especially preferred. (lines 59–61). Also, lower

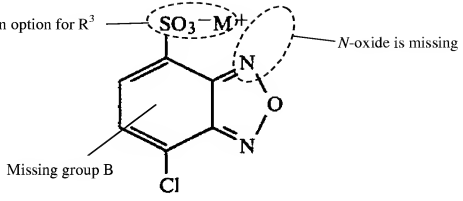
alkylcarbonyl are to be understood to be those radicals which contain up to 5 carbon atoms in the alkyl moiety, acetyl being especially preferred. (lines 61–64).

Though formula (III) as defined by Hoenes still encompasses a large number of compounds, unlike the Hoenes's recitation of claim 1 or Hoenes's embodiment at column 5, lines 37–43, formula (III) *is* sufficiently delimited that a person of ordinary skill could sketch all applicable structures. However, the above definitions of R^1 and R^2 do not explicitly or inherently include an amine, the group B that is *required* in the claimed molecules of formula (I). In fact, none of the definitions include any substituents with elements other than carbon, hydrogen, and oxygen.

The Applicants respectfully submit that Hoenes does not anticipate any molecules recited in instant claims 1 or 14 when the "at once envisaged" test is carried out according to the guidance of the MPEP and case law cited therein.

Ghosh describes neither an *N*-oxide nor an amine functionality

Claim 2 of Ghosh represents the broadest definition of Ghosh's inventive compound. Specifically, claim 2 of Ghosh recites a compound having the general formula (IV):



(IV)

wherein M^+ is H^+, Na^+, NH_4^+, or K^+. This compound fails to anticipate the instantly claimed compound of formula (I) in three ways. First, formula (IV) lacks an *N*-oxide. Second, formula (IV) lacks a group B (an amine group $-NR^1R^2$). Third, the $-SO_3M$ group in formula (IV) is not among any of the possible R^3 substituents recited in instant claims 1 and 14. Specifically, instant claims 1 and 14 recite that any group SO_3R must be a functional group of a C_1–C_4 alkyl, not a group directly attached to the six-membered ring. Thus, the class of molecules recited in Ghosh's claim 2 and the class of molecules described by formula (I) of instant claims 1 and 14 are mutually exclusive. Namely, every molecule of formula (IV) requires an $-SO_3M$ group not readable on formula (I), and every molecule of formula (I) requires an amine and an *N*-oxide not readable on Ghosh. The Applicants respectfully submit that Ghosh does not anticipate any of the instant claims.

The Applicants respectfully submit that none of cited patents teaches any molecule according to formula (I) recited in claims 1 and 14. Thus, none of the cited patents can anticipate any of the instant claims under § 102(b). The Applicants respectfully request reconsideration.

Conclusion

It is believed that all rejections have been overcome by the present response. Applicants respectfully request reconsideration. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response.

Respectfully submitted,

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